STATE OF MARYLAND

DHMH

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October 7, 2011

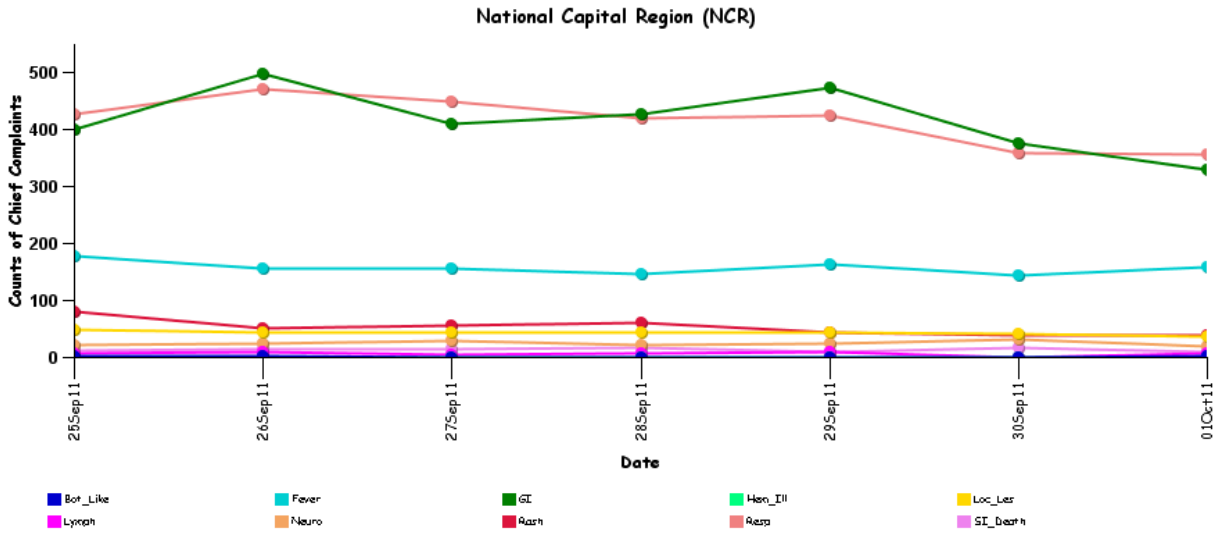
Public Health & Emergency Preparedness Bulletin: # 2011:39
Reporting for the week ending 10/01/11 (MMWR Week #39)

CURRENT HOMELAND SECURITY THREAT LEVELS

National: **No Active Alerts**
Maryland: **Level One (MEMA status)**

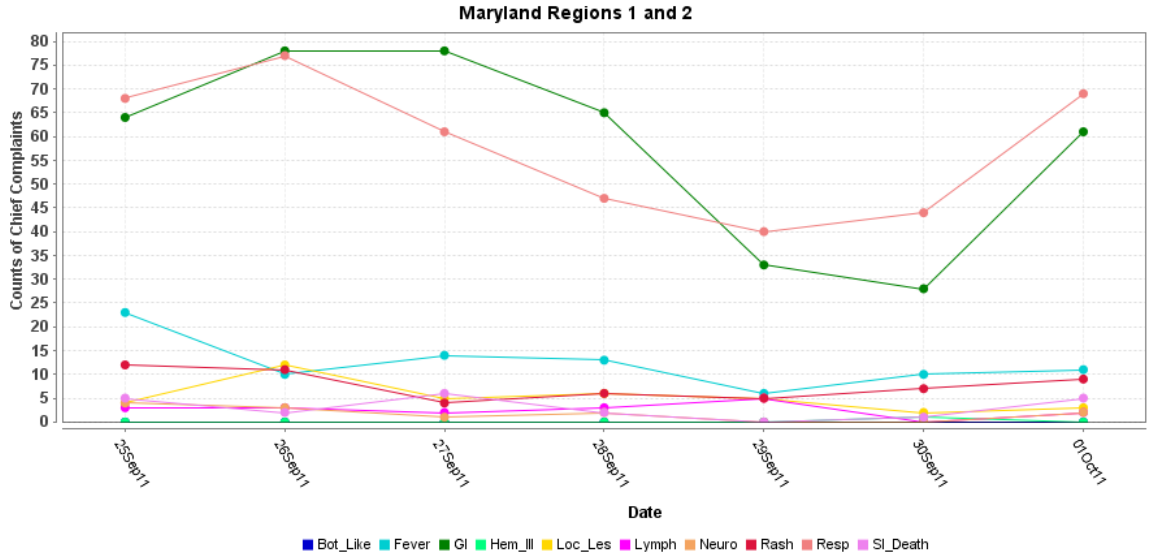
SYNDROMIC SURVEILLANCE REPORTS
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled. Red alerts are generated when observed count for a syndrome exceeds the 99% confidence interval. Note: ESSENCE – ANCR uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

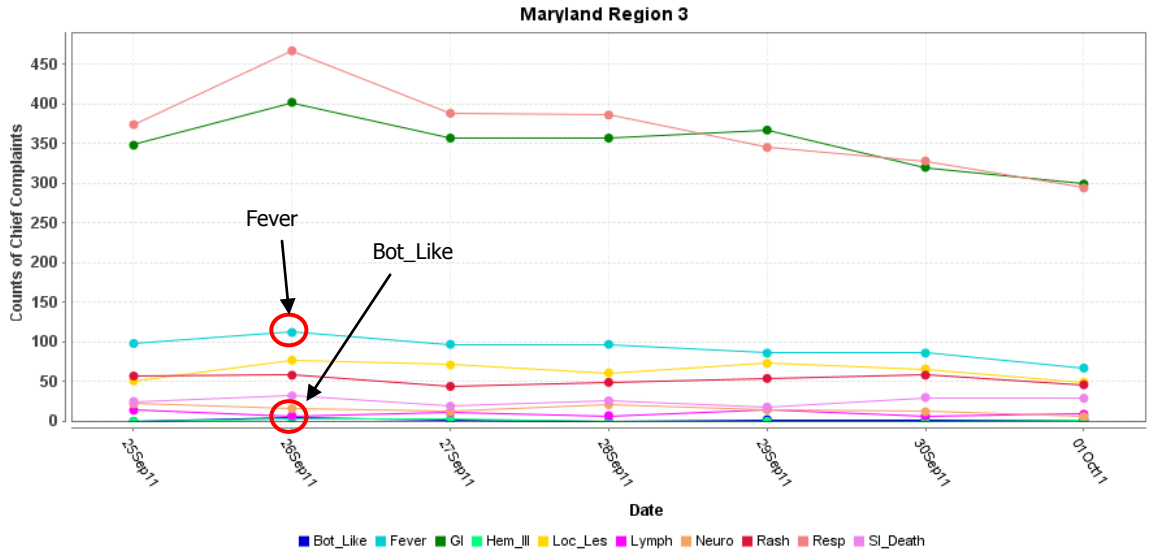


*Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

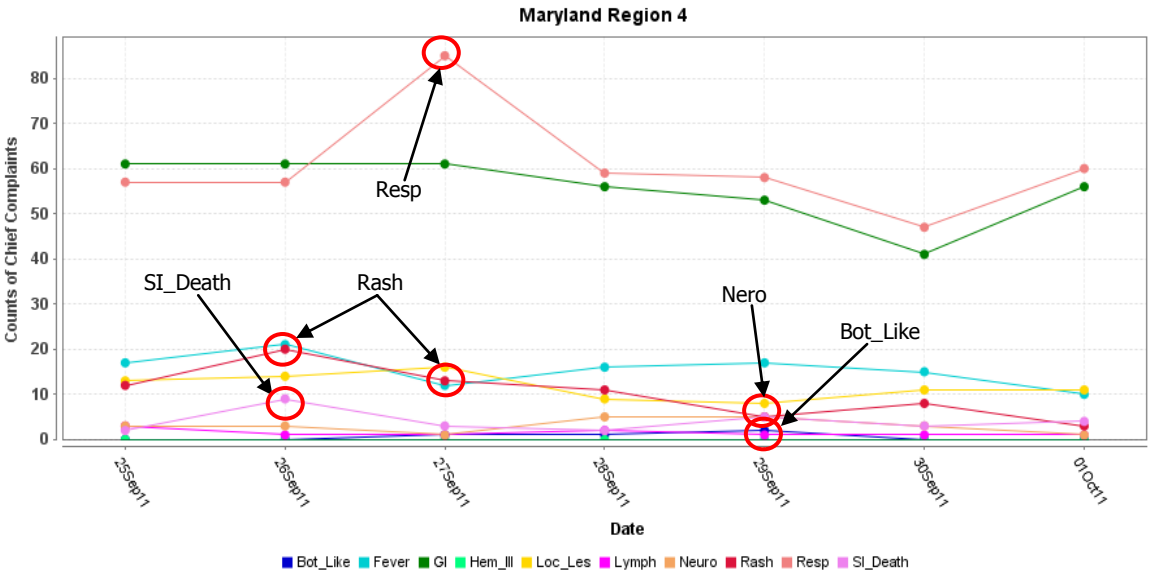
MARYLAND ESSENCE:



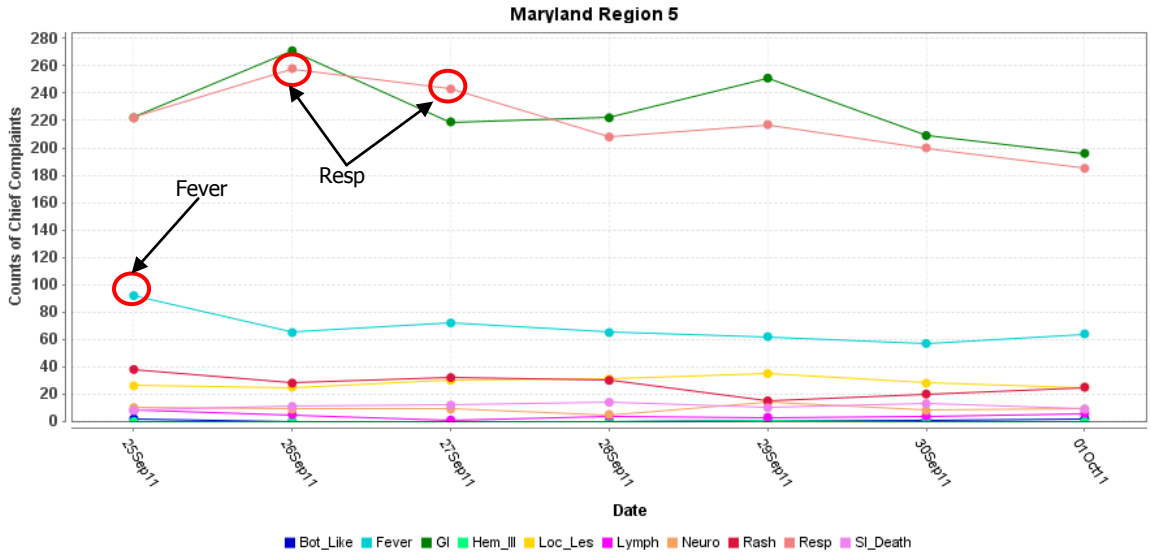
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore City, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE



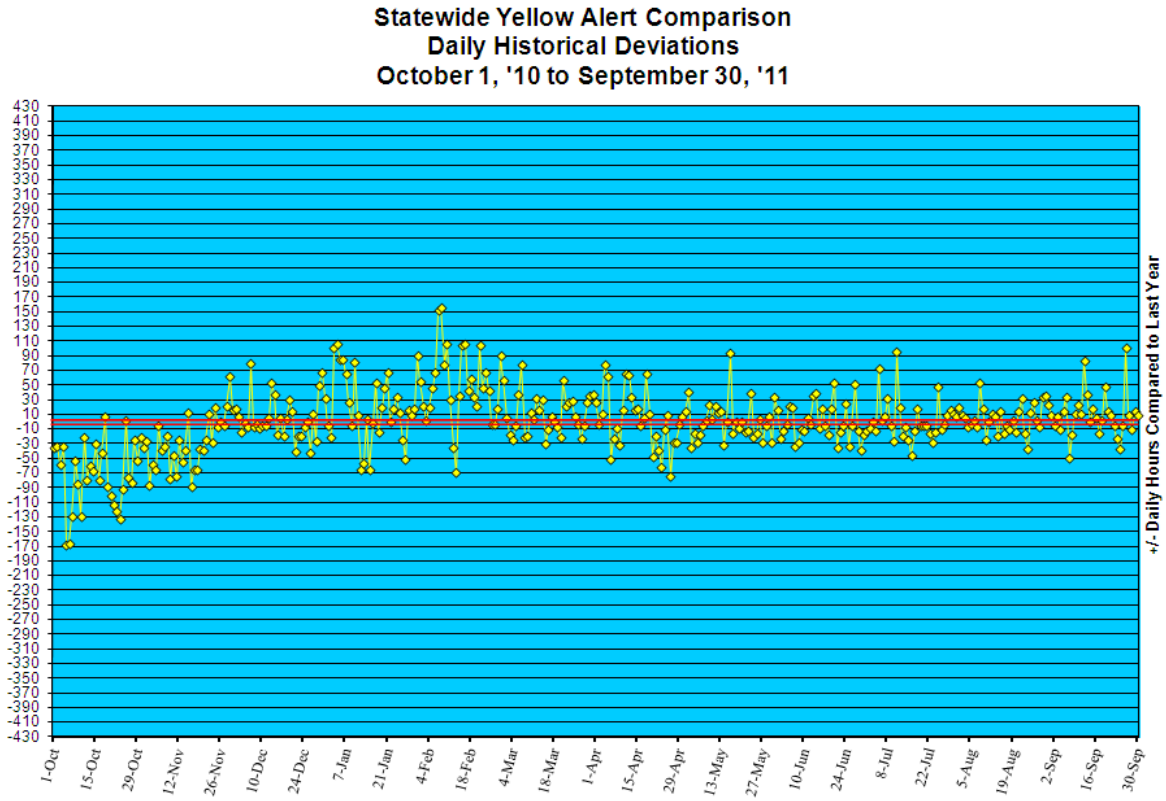
* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/10.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to an emerging public health threat for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in July 2011 did not identify any cases of possible public health threats.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (September 25 – October 1, 2011):	9	0
Prior week (September 18 – September 24, 2011):	14	0
Week#39, 2010 (September 26 –October 2, 2010):	15	0

2 outbreaks were reported to DHMH during MMWR week 39 (September 25 – October 1, 2011).

1 Foodborne outbreak
1 outbreak of GASTROENTERITIS/FOODBORNE associated with a Restaurant

1 Rash illness outbreak
1 outbreak of suspected CHICKENPOX associated with a School

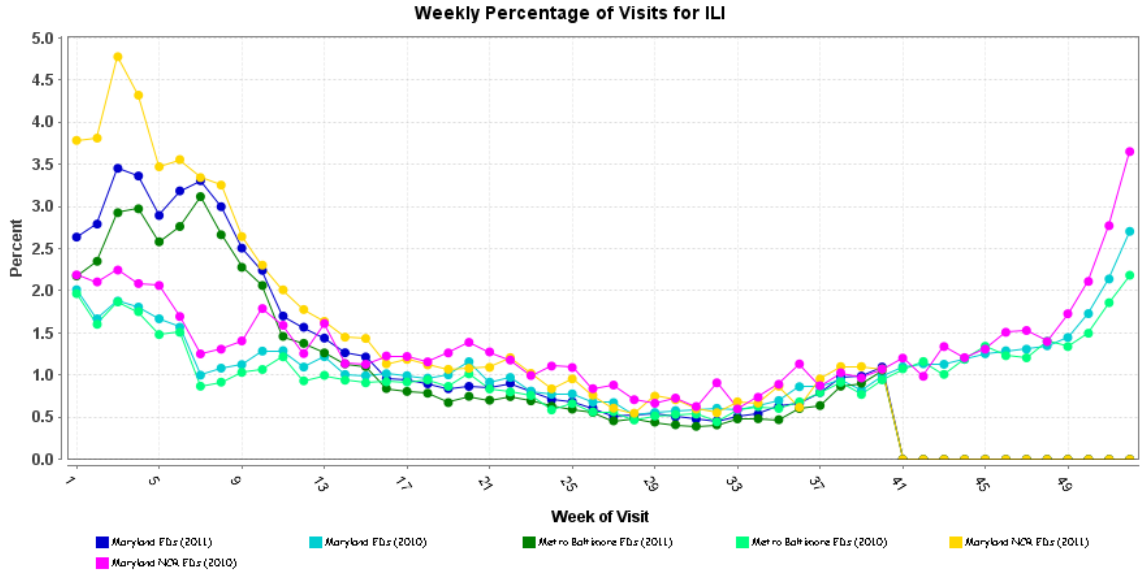
MARYLAND SEASONAL FLU STATUS

Seasonal Influenza reporting occurs October through May.

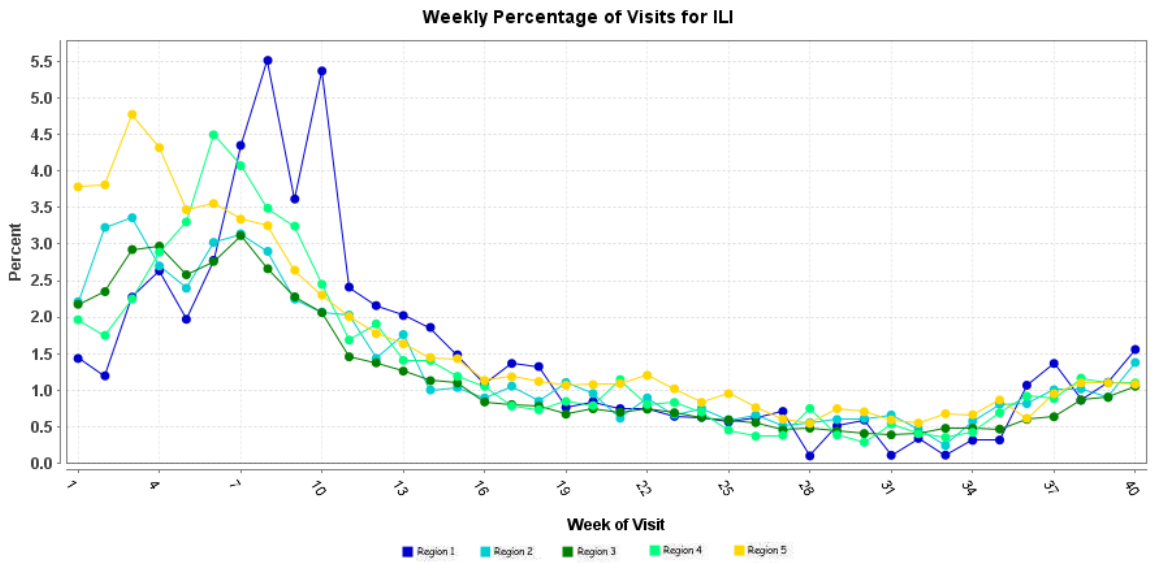
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the week.



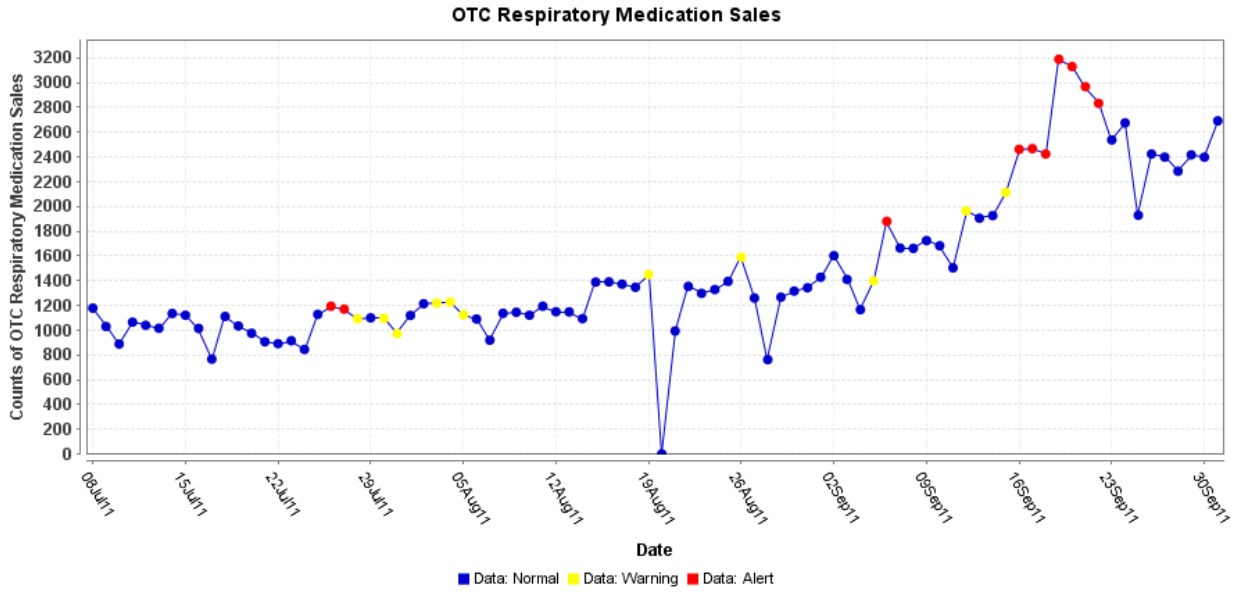
* Includes 2010 and 2011 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2011 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5

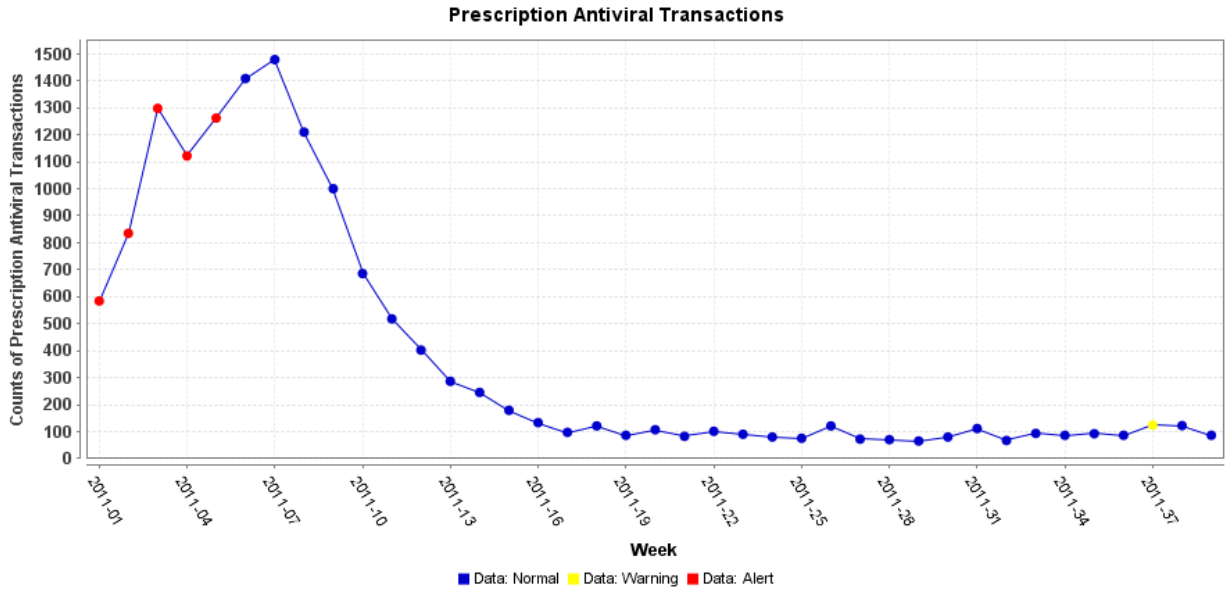
OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PRESCRIPTION ANTIVIRAL SALES:

Graph shows the weekly number of prescription antiviral sales in Maryland.



PANDEMIC INFLUENZA UPDATE / AVIAN INFLUENZA-RELATED REPORTS

WHO update: The current WHO phase of pandemic alert for avian influenza is 3. Currently, the avian influenza H5N1 virus continues to circulate in poultry in some countries, especially in Asia and northeast Africa. This virus continues to cause sporadic human infections with some instances of limited human-to-human transmission among very close contacts. There has been no sustained human-to-human or community-level transmission identified thus far.

In **Phase 3**, an animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks. Limited human-to-human transmission may occur under some circumstances, for example, when there is close contact between an infected person and an unprotected caregiver. However, limited transmission under such restricted circumstances does not indicate that the virus has gained the level of transmissibility among humans necessary to cause a pandemic.

As of September 16, 2011, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 564, of which 330 have been fatal. Thus, the case fatality rate for human H5N1 is approximately 59%.

AVIAN INFLUENZA: 26 September 2011, H5N1 bird flu [avian A/H5N1 influenza virus] can kill humans but has not gone pandemic because it cannot spread easily among us. That might change: 5 mutations in just 2 genes have allowed the virus to spread between mammals [ferrets] in the lab. What's more, the virus is just as lethal [to ferrets] despite the mutations. "The virus is transmitted as efficiently as seasonal flu," says Ron Fouchier of the Erasmus Medical Centre in Rotterdam, the Netherlands, who reported the work at a scientific meeting on flu last week in Malta. "This shows clearly that [the H5N1 virus] can change in a way that allows transmission and still cause severe disease in humans. It's scary," says Peter Doherty, a 1996 Nobel prizewinner for work in viral immunology. H5N1 evolved in poultry in east Asia and has spread across Eurasia since 2004. In that time, 565 people are known to have caught it; 331 died. No strain [of the avian H5N1 virus] that spreads readily among mammals has emerged in that time, despite millions of infected birds and infections in people, cats and pigs. Efforts to create such a virus in the lab have failed, and some virologists think H5N1 simply cannot do it. The work by Fouchier's team suggests otherwise. They 1st gave H5N1 3 mutations known to adapt bird flu to mammals. This version of the virus killed ferrets, which react to flu viruses in a similar way to humans. The virus did not transmit between them, though. Then the researchers gave the virus from the sick ferrets to more ferrets, a standard technique for making pathogens adapt to an animal. They repeated this 10 times, using stringent containment. The 10th round of ferrets shed an H5N1 strain that spread to ferrets in separate cages and killed them. The process yielded viruses with many new mutations, but 2 were in all of them. Those plus the 3 added deliberately "suggest that as few as 5 are required to make the virus airborne," says Fouchier. He will now test H5N1 made with only those 5. All the mutations have been seen separately in H5N1 from birds. "If they occur separately, they can occur together," says Fouchier. Malik Peiris of the University of Hong Kong, a flu virologist, says this means H5N1 transmissible between humans can evolve in birds, where it is circulating already, without needing to spend time in mammals such as pigs. Peter Palese, a flu specialist at Mount Sinai Medical Center in New York

City who has expressed doubts that H5N1 can adapt to mammals, is not convinced. "Ferrets are not humans," he says. "H5N1 has been around for a long time" and failed to mutate into a form that can jump between people. "That it has not adapted doesn't mean it cannot," replies Jeffery Taubenberger of the US National Institutes of Health in Bethesda, Maryland, who studies how a bird flu became the deadly pandemic of 1918. "It simply means that so far, it has not, luckily for us."

NATIONAL DISEASE REPORTS

CYCLOSPORIASIS (GA): 30 September 2011, State health officials say they're investigating the cause of an illness that sickened more than 100 guests and staff members at the Georgia Aquarium. Georgia Division of Epidemiology officials tell WSB-TV that *Cyclospora* made the people sick. The Centers for Disease Control says it's a parasite which causes an intestinal infection. Guests at 3 catered events at the aquarium in late July [2011] had week-long bouts of diarrhea a few days later. Health officials haven't determined the source of the breakout, but said they're investigating salad mix, fresh basil, and cherry tomatoes since those items were served at all 3 events. Wolfgang Puck Catering CEO Carl Schuster said his firm, which prepares food at aquarium events, is awaiting reports from health officials. He said the company adheres to the highest safety standards. (Food Safety Threats are listed in Category B on the CDC List of Critical Biological Agents) *Non-suspect case

LISTERIOSIS (USA): 30 September 2011, Alaska officials say bags of chopped romaine lettuce are being recalled over concerns of potential *Listeria* contamination. Meanwhile, a California farm said Thursday [29 Sep 2011] it was voluntarily recalling bags of chopped romaine lettuce because of possible contamination, though no illnesses have been reported. The Alaska Department of Conservation has confirmed that the 2-pound bags of chopped romaine lettuce from True Leaf Farms of Salinas, California, which have a use-by date of 29 Sep 2011, were distributed in Alaska by Church Brothers, LLC. There have been no reported illnesses, but listeriosis can be fatal and is particularly dangerous to people with weakened immune systems, including infants, the elderly and people with HIV or those who are undergoing chemotherapy. *Listeria* rarely shows up in produce, but an outbreak linked to cantaloupe from a Colorado farm has caused at least 72 illnesses, including up to 16 deaths, in 18 states. Officials urge those who purchased the potentially tainted product, which carries a bag and box code of B256-46438-8, to throw it out. Previously, True Leaf Farms announced the recall of 90 cartons that were shipped to an Oregon food service distributor. From the distributor, it might have gone to at least 2 other states, Washington and Idaho. The Food and Drug Administration notified the company that a sample from one bag taken as part of a random check tested positive for *Listeria*. Federal health officials say they've gotten better at detecting the germs that cause food poisoning, so they are seeing them in produce more often. California health officials are looking into the contamination, said Ken August, spokesman for the California Department of Public Health, but have not yet determined how the lettuce became contaminated. "Anytime there is a contaminated food product, we are concerned and take steps so that it's removed from shelves as quickly as possible and to notify consumers," he said. August said the state is working with the company to verify the distribution of the produce being recalled. Most of the lettuce was sold to California institutions such as restaurants and cafeterias, he said, and only a small amount went to retail in other states, August said. The Salinas Valley is known as the "Salad Bowl of the World" for its production of lettuce and numerous other crops. Lettuce currently picked at the farm is safe to eat, said Steve Church, CEO of Church Brothers, which sells and markets the farm's produce. The company is working with the FDA, Church said, to determine if there are any problems at the farm and is taking more time to sanitize its produce. (Food Safety Threats are listed in Category B on the CDC List of Critical Biological Agents) *Non-suspect case

VIBRIO PARAHAEMOLYTICUS (WA): 26 September, 2011, The USA FDA on Monday afternoon, 26 Sep 2011, warned consumers not to eat oysters harvested from Washington State's Hood Canal Area 4 between 30 Aug 2011 and 19 Sep 2011. The oysters are suspected of carrying *Vibrio parahaemolyticus*, and are believed to be the cause of an outbreak of illness in as many as 5 consumers to date. The oysters that are subject to the warning have been distributed to 23 states and several countries. The states are Alaska, Arizona, California, Colorado, Connecticut, Florida, Hawaii, Illinois, Indiana, Maryland, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oregon, Ohio, Pennsylvania, Texas, Virginia, Utah, and Washington. They also went out to China, Indonesia, Thailand, and Taiwan. Meanwhile, Area 4 of Hood Canal has been closed to shellfish harvesting. *Vibrio parahaemolyticus* belongs to the same family of bacteria as that which causes cholera, and although very rarely fatal, it can cause abdominal cramps and gastrointestinal distress for 1 to 3 days. The bacterium thrives in coastal salt waters, and under certain conditions of salinity and temperature, will infect seafood harvested from those areas. (Food Safety Threats are listed in Category B on the CDC List of Critical Biological Agents) *Non-suspect case

INTERNATIONAL DISEASE REPORTS

E. COLI 0157 (UK): 30 September 2011, An 8 month *E. coli O157* outbreak across the UK left 250 people ill and one dead, but was not publicized at the time because its origins were unknown, health officials say. After 6 months of investigations the infection was ultimately linked to people handling loose raw leeks and potatoes in their homes, said the Health Protection Agency (HPA), which has only now acknowledged the outbreak. The cases began in December 2010 and continued until July 2011. In total 250 victims, 100 of them under 16, were left sick with vomiting and diarrhea. Of those, 74 needed hospital treatment, including 4 who developed hemolytic-uremic syndrome which can lead to kidney failure. One unnamed patient, who the HPA said had underlying health problems, died. The outbreak involved a rare strain of *E. coli 0157* called Phage Type 8 (PT8). It affected 193 people in England, 44 in Scotland and 14 in Wales. While 40 percent of the 250 were under 16 years old, 69 percent were female. In each of

the past 3 years an average of 81 people across the UK have been infected with *E. coli O157* PT8. The HPA said, Health Protection Scotland and Public Health Wales began becoming aware of increased numbers of _E. coli_ cases from December 2010 onwards. An initial inquiry, which asked all those affected about their food intake and places they had visited, proved inconclusive. Unlike other *E. coli* outbreaks it was not possible to identify a single source for the outbreak, such as a commercial or children's farm, or food producer. It was only after a 2nd round of in-depth interviews with 30 sufferers that investigators realized that victims were 40 times more likely to have been in a home where people handled leeks sold loose and 12 times more likely to have been in a household where potatoes were bought in or sold from sacks had been handled, compared with a control group of 62 unaffected people. "Our study showed a statistically significant association with raw loose leeks and potatoes from sacks, but these vegetables may not be the only source of contamination," said Dr Bob Adak, an HPA gastrointestinal expert who led the multi-agency outbreak control team that investigated it. Soil on the vegetables is thought to have been the likely source of the *E. coli* bacteria. "In this outbreak, which is now over, the vegetables could have carried traces of contaminated soil. It is possible people caught the infection from cross-contamination in storage, inadequate washing of loose vegetables, insufficient hand washing after handling the vegetables or by failing to thoroughly clean kitchen equipment, utensils or surfaces after preparing the vegetables." A spokeswoman said the HPA did not alert the public to the ongoing outbreak because they did not know where it had originated and therefore could offer no useful public health advice. "At the outset it was not clear what was causing the outbreak and we had no information that would have enabled the public to take any steps to protect themselves," she said. "It was only following extensive and complex epidemiological investigations and analysis that a cause emerged. "Although the outbreak is over, we feel it is still important to share our findings with the public so that they can take the appropriate action to guard against any possible recurrence. "As the number of new cases had declined significantly by June 2011, and there was not an immediate need to issue a health alert to the public, we waited until FSA's customary consultation processes with industry and consumer organizations were completed before making this information public. "During the upcoming autumn and winter months, people are more likely to be using these types of vegetable in their cooking, so it was also decided that now was the right time to make this information public." Dr Andrew Wadge, chief scientist at the Food Standards Agency (FSA), which was also involved in the outbreak control team, said: "It's sadly a myth that a little bit of dirt doesn't do you any harm; soil can sometimes carry harmful bacteria and, although food producers have good systems in place to clean vegetables, the risk can never be entirely eliminated. Control of infection from *E. coli O157* relies on an awareness of all potential sources of the bacteria and high standards of hygiene where it may be present. "This outbreak is a timely reminder that it is essential to wash all fruits and vegetables, including salad, before you eat them, unless they are labeled 'ready to eat,' to ensure that they are clean. It is also important to wash hands thoroughly as well as to clean chopping boards, knives and other utensils after preparing vegetables to prevent cross contamination," Wadge added. (Food Safety Threats are listed in Category B on the CDC List of Critical Biological Agents) *Non-suspect case

TICK-BORNE ENCEPHALITIS (INDIA): 29 September 2011, Until August 2011, 161 cases of tick-borne encephalitis (TBE) were recorded in Sweden for 2011, leading to an incidence of 1.7 per 100,000 population. 50-59 year-olds (24 percent) were most affected; 55 percent of the cases were males. An increase in TBE in Sweden has occurred in the last decade and might be explained by enlarged tick populations, more contact between TBE virus infected ticks and humans, and also by growing awareness of the disease. Climatic conditions may have contributed to the increase. Up to 25 Sep 2011, 204 patients have been diagnosed as tick-borne encephalitis (TBE) cases, indicating that 2011 may be a record year for the number of TBE cases in Sweden. (Viral Encephalitis is listed in Category B on the CDC List of Critical Biological Agents) *Non-suspect case

YELLOW FEVER (UGANDA)26 September 2011, The World Health Organization (WHO) and the Uganda Minister for Health confirmed the outbreak of a yellow fever [YF] epidemic in northern Uganda. Minister of State for Health, reached by telephone by Xinhua on Sunday [25 Sep 2011], said that steps would be taken to prevent the spread of the disease. Emmanuel Tenywa, the WHO official, told Xinhua by phone that it was an imported case from [the Republic of] Southern Sudan, discovered in Palabek, Kitgum district [Uganda]. A Ugandan affected by yellow fever came from the city of Torit, the capital of the state of Eastern Equatoria [Republic of Southern Sudan]. "He had not been immunized and contracted the disease in the [Republic of] Southern Sudan. All cases of yellow fever have to be well examined," said Tenywa, recalling a campaign of mass vaccination against yellow fever in Kitgum in January 2011. According to WHO, there are about 200,000 cases of yellow fever each year, with 30 000 deaths. (Viral Hemorrhagic Fevers are listed in Category A on the CDC List of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: http://dhmh.maryland.gov/flusurvey

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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